

Attorney Docket No. 056267-0...

Application No. 09/834,672

Please add claims 19-33 as follows:

19. A modular construction system comprising:

an inventory of panel shapes that are directly related to each other by virtue of their derivation from a common format, the format being a three-dimensional grid defined by twenty-seven subcubes within a single larger cube, the subcubes having corners that form sixty-four vertices occurring within the grid, from each of which, straight line radians are drawn to each of the other sixty-three vertices, upon repeating for all sixty-four vertices, revealing fifty-nine panel shapes that are defined within the grid format, the panel shapes forming panels having a plurality of sides;

wherein single line radians between any two vertices are axes between the vertices as applied to construction assemblies, being aligned with panel centerlines that are parallel and equidistant to the sides of the panels of the inventory of panel shapes being joined;

a means of constructing a structure from the inventory of panel shapes on an architectural scale that allows for a plurality of panels to be connected at a plurality of angles, with respect to each other, about a given axis parallel to the panel sides about which at least two panels are joined, or about a given vertice, where the axes between the sides of the panels being joined intersect, the plurality of panels including structural, load bearing struts attached along the panel sides which can converge on the given vertice and in any direction; and

wherein the strut provides a panel shape framework forming the perimeter of the panel to carry the weight of the panel and allow connection to other panels.

20. The modular construction system of claim 19, wherein the struts are offset from, parallel to, and rotational about any given axis between vertices, providing for a plurality of

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struts that may occur along any given axis between vertices, and positioned in a plurality of angles, with respect to each other.

21. The modular construction system of claim 19, further comprising at least two connection mechanisms for joining a plurality of panels together, the connection mechanisms providing space along and parallel to an axis between the sides of the panels being joined for the installation of wiring, plumbing or other utility lines.

22. The modular construction system of claim 21, wherein the connection mechanisms include tubular elements that are centered exactly on the axis between any two given vertices and are linked to the struts of at least two panels.

23. The modular construction system of claim 22, wherein the tubular elements are linked to the struts by webs that are extensions along the strut panel corners and brackets that are extensions along the strut panel sides.

24. The modular construction system of claim 23, wherein the webs and brackets create a space between the strut panel sides and the tubular elements connecting a plurality of panels together.

25. The modular construction system of claim 19, wherein the struts are offset from the axis between the two vertices and are joined to a common tubular element by means of webs and brackets that are attached to the struts for joining at least two panels together.

26. The modular construction system of claim 19, wherein the plurality of panel shapes are joined together by at least two joining mechanisms for simple attachment of the panel shapes for building a structure.

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27. A modular construction system comprising:

an inventory of panel shapes derived from a three-dimensional grid defined by twenty-seven subcubes within a single larger cube, the panel shapes forming a plurality of panels having a plurality of sides thereto; and

a means for connecting a plurality of panels together at any angle through 360 degrees about any axis between vertices and at any dihedral angle with respect to each other for building architectural structures.

28. The modular construction system of claim 27, wherein the plurality of panels include struts attached along the sides of each of the panels forming the perimeter of the panels and panel shape framework to carry the weight of the panels and allow connection to other panels.

29. The modular construction system of claim 28, wherein the means for connecting the plurality of panels together includes at least one joinery assembly.

30. The modular construction system of claim 29, further comprising a first joinery assembly that includes at least one web attached to the struts of at least two panels, at least one collar having an opening extending therethrough and at least one tab extension extending from one side of the collar that attaches to the at least one web with fasteners, and a tubular element that extends through the opening in the at least one collar for connecting a plurality of panels together.

31. The modular construction system of claim 30, wherein the first joinery assembly further includes joint closures for covering the space between the struts and bracing elements for securing the panels in place.